NATIONAL SCIENCE FOUNDATION
ARLINGTON, VA 22230

Engineering Directorate
Division of Design, Manufacture & Industrial Innovation

Report of the
Advisory Committee for
Small Business Innovation Research (SBIR) and
Small Business Technology Transfer (STTR)
Programs

for the Meeting on
18 and 19 June 2002

A.   INTRODUCTION

The National Science Foundation (NSF) Advisory Committee for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs was held 18 and 19 June 2002 in Room 1235 of the NSF Headquarters facility in Arlington, VA.

Advisory Committee members in attendance were:

Dr. Chris Busch (Chairman)
Dr. Sudhir Bhagwan
Dr. Robert Norwood
Ms. Penny K. Pickett
Ms. RoseAnn B. Rosenthal (19 June 2002)
Dr. David B. Spencer
Mr. Milton Stewart
Mr. Maurice Swinton, SBA SBIR/STTR Programs
Dr. E. Jennings Taylor
Dr. Meg Wilson

Advisory Committee members absent:

Dr. Jose Zayas-Castro
Mr. Tyrone Taylor

NSF representatives attending all or part of the meeting included:

Ms. Cheryl Albus, SBIR Program Manager
Ms. Jean Bonney, SBIR Program Manager
Mr. Ritchie Coryell, SBIR Program Manager
Mr. Mike Crowley, SBIR Program Manager
Dr. Esin Gulari, Acting Director, Engineering Directorate
Dr. Joe Hennessey, Acting Director, SBIR Program
Ms. Sonya Lucas, DMII Division
Dr. Kesh Narayanan, Acting Director, DMII Division
Dr. Sara Nerlove, SBIR Program Manager
Ms. Betty Person, Program Specialist
Dr. Jim Rudd, SBIR Program Manager
Dr. Om Sahai, SBIR Program Manager
Mr. Jim Suplee, OLPA
Dr. Winslow Sargeant, SBIR Program Manager
Dr. George Vermont, SBIR Program Manager
Dr. Rosemarie Wesson, SBIR Program Manager

Other Participants and Attendees

Ms. Jenny Servo

B.   ACTIVITIES SUMMARY

Tuesday, 18 June 2002

Dr. Joe Hennessey opened the meeting, and introduced Dr. Esin Gulari (Acting Assistant Director for Engineering) who addressed the meeting briefly. Dr. Hennessey then introduced participants and reviewed the planned agenda for the meeting.

Dr. Busch reviewed highlights from the recent Engineering Directorate Advisory Committee (AdComm) meeting held on 5-6 Jun 2002. He reviewed the presentation on the SBIR Program that he made at the Engineering AdComm meeting.

Dr. Hennessey then reviewed the NSF SBIR Program Office response to the recommendations of the NSF SBIR AdComm meeting on 19 & 20 June 2001. Ritchie Coryell and George Vermont summarized their work on NSF SBIR commercialization performance. The morning session concluded with presentations by Drs. Kesh Narayanan and Jean Bonnie on the new "Matchmaker" program aimed at linking SBIR winners with investors and strategic partners.

In the afternoon, Dr. Hennessey discussed problems associated with Phase 1 proposal review and evaluations. Curt Surplee (OLPA) discussed the need for SBIR success stories at OLPA to promote NSF with the public and members of congress.

The balance of the afternoon was dedicated to reviewing issues discussed earlier this day as a prelude for final report preparation.

Wednesday, 19 June 2001

The agenda this day began with a presentation by Ms. Jenny Servo on her activities related to commercialization mentoring for Phase 1 awardees.

The AdComm then prepared a draft report on the meeting. The report then was presented to NSF representatives by AdComm members.

C.   COMMENTS ON NSF ACTIONS SINCE LAST ADCOM MEETING JUN 2001

The AdCom commends the NSF leadership and staff for the progress made responding to the AdComm's recommendations made at the June 2001 meeting. Specific

comments and recommendations based on presentations and discussions at the June 2002 AdComm meeting are presented below.

It was noted that several recommendations made in the AdComm Jun 2001 report were not acted on. These include:

Partnerships and a task force
Reviewer evaluation
Portfolio management (including site visits)
Prescreening of proposals

D.   COMMENTS AND RECOMMENDATIONS

1.   Phase 1 Proposal Review Process

The AdComm agrees with the NSF position that the Phase 1 review process be streamlined to enable higher review process efficiency while maintaining review quality.

Limiting the number of proposals (or awards) that an individual small business can submit (receive) annually was one mechanism for achieving improved efficiency. The AdComm recommends that NSF consider limiting proposals and/or awards. However, before making a decision on this mechanism, the AdComm suggests that NSF investigate implications of this procedure from a legal and public policy standpoint.

It is recommended that a Phase 1 proposal prescreening process be implemented as part of the proposal review process. It is suggested that this process be implemented on a limited "pilot" basis beginning with the 12 June 2002 submissions. The prescreening process should provide a pass/fail evaluation of proposals. NSF should establish the method of partitioning proposals into the pass/fail categories. Proposals "failed" in the prescreening would be returned to small businesses with a summary review statement. Those that "pass" would proceed to a full panel review and evaluation.

The AdComm expressed concern about adequate consideration of commercial potential in the Phase 1 review process. It is recommended that business reviewers be included in the Phase 1 review process.

2.   State Partnerships and Outreach

The AdComm commends NSF for its support to regional and state SBIR outreach activities.

The AdComm suggests that NSF encourage state organizations to demonstrate leadership in SBIR partnership activities.

The AdComm recognizes NSF's continued interest in encouraging federal-state partnerships, and that such partnerships may help extend the capabilities of the NSF SBIR/STTR Programs. However, because of the NSF staff work load during the coming year, the issue of partnerships and outreach are deferred to its next meeting. In the meantime, Meg Wilson and RoseAnn Rosenthal will explore efficient partnership and outreach opportunities, and report at the next annual meeting.

3.   Matchmaker

It is recommended that SBIR/STTR administration work with AdComm members to develop a marketing plan introducing Matchmaker to angel and early stage investors as well as potential strategic corporate partners. Administrators should work with the office of Public Affairs to publicize Matchmaker and success stories resulting from implementing the plan. The AdComm also recommends evaluating similar projects for other sources of capital.

4.   Phase 2 and 2B Submissions

The AdComm recommends that the present Phase 2 process called "Fund with Revisions" be continued. Given the "Fund with Revisions" procedure, it is recommended that allowing re-submittal of declined Phase 2 proposals not be implemented.

It is recommended that two annual submission dates be established for the Phase 2B Program. However, each Phase 2B proposal should be allowed only one submission (no resubmissions).

5.   Stage-gating Phase 2 Awards

The AdComm recognizes progress in term of last year's recommendation for portfolio site visits and additions to the administrative staff. The AdComm reaffirms its desire to see NSF implement stage gate management for Phase 2 awards in excess of $250,000. The AdComm endorses at least a midpoint review and implementation of procedures that allow the Program Managers to release the second half of the Phase 2 award for projects that merit continuation.

NSF should place the burden on the awardee to pass through the funding gate for the second half of the Phase 2 award.

6.   Commercialization Success and Measurement

The AdComm commends the NSF SBIR/STTR Program initial baseline study recently completed, and recommends building and expanding further commercialization assessments.

The AdComm recommends that the commercialization measurements include a broader set of criteria that include meaningful business and commercialization metrics. In addition, it is recommended that the SBIR/STTR Program Office establish clear guidelines for final report submittal requirements. This includes enforcement of the five-year data reporting requirement.

The AdComm recommends that these studies distinguish between commercial success, and economic/societal impacts.

7.   Commercialization Planning for Phase 2

The AdComm strongly endorses the present commercialization planning activity performed by the current vendor. The AdComm encourages NSF to continue this activity, promote it among its award winners, and track efficacy of this support activity.

The AdComm recommends that NSF explore innovative ways to increase participation in and funding for award winner's commercialization assistance, including possible assistance from a vendor for Phase 2 business planning.

8.   Proposal Reviewers

NSF presenters expressed the concern about and need for qualified reviewers – including both technical and business reviewers. The AdComm believes that the reviewer pool can be substantially enlarged through outreach efforts – especially for business reviewers. AdComm members offer to assist NSF develop larger reviewer pools.

The AdComm recommends a more systematic procedure for tracking reviewer performance, and that it strive to improve reviewer quality. One suggested approach toward this end is reviewer evaluation by the panelists at the conclusion of each panel.

The AdComm expressed concern about insufficient consideration of commercial potential in the Phase 1 review process. The AdComm recommends that NSF address this issue, and strive for more consistent balance between technical and business considerations in Phase 1 and Phase 2.

9.   Homeland Security Focus

In light of the high national priority for Homeland Security issues, the AdComm strongly recommends that the NSF SBIR/STTR Programs encourage proposals in this area within the framework of the present solicitation topics.

10. Administrative Resources

There are growing demands on NSF SBIR/STTR Program Managers. These include managing an increasing number of awards, the need for more substantive award portfolio management, and growing outreach and commercialization assistance activities. Specifically, it is recommended that travel and related expenses be increased to meet this objective. In addition, based on comments from a representative from NSF OLPA, the NSF SBIR/STTR Programs offer excellent opportunities to promote NSF "success stories." Therefore, the AdComm strongly recommends that the NSF SBIR/STTR Program Office request appropriate material from grantees as part of their final report.

11. Clarification of Allowable Costs

The AdComm recommends that NSF prepare guidelines for appropriate allowable costs for commercialization on NSF SBIR awards, and the distribution of these costs between direct, indirect and unallowable costs. Such considerations should include treatment of expenses related to requirements levied by NSF on awardees.

END OF REPORT